DOCUMENT RESUME

ED 435 021 CE 079 241

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TITLE Changes of the Human Mind.
PUB DATE 1998-00-00
NOTE 18p.; This essay has also been published in the book review section of "Adult Education Quarterly" (v49 n1 Fall 1998).
PUB TYPE Book/Product Reviews (072)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Education; Adults; Change; Comprehension; *Consciousness Raising; Curriculum Development; *Epistemology; *Futures (of Society); Knowledge Representation; Needs; Values

ABSTRACT

Five books, representing a small selection of possible readings on necessary changes of the human mind, point to a convergence of interest from different fields of study toward the need for modern society to develop the capacity to respond to the complexity of modern life and the newly acquired ability to destroy life on an unprecedented scale. Those books are as follows: "The Web of Life: A New Scientific Understanding of Living Systems" (F. Capra); "Common Fire: Lives of Commitment in a Complex World" (L.A.P. Daloz et al.); "In Over Our Heads: The Mental Demands of Modern Life" (R. Kegan); "The Protean Self: Human Resilience in an Age of Fragmentation" (R. J. Lifton); and "Evolution of Consciousness: The Origins of the Way We Think" (R. Ornstein). Despite the differences in the five authors' approaches, they describe a consciousness that is: (1) capable of developing a more inclusive world view and forming allegiances beyond the local; (2) cognizant of the interdependence among humans and between humankind and the earth; (3) able to cope comfortably with ambiguity; and (4) able to value complexity and diversity. All five authors call for changes in the way humans think, the way humans relate to the rest of the world, and the way humans identify with all of humanity. Study of these authors leads to building a curriculum for a new consciousness. (KC)

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CHANGES OF THE HUMAN MIND

Capra, F. (1996). The web of life: A new scientific understanding of living systems. New York: Anchor Books.

Daloz, L. A. P., Keen, C. H., Keen, J. P., & Parks, S. D. (1996). Common fire: Lives of commitment in a complex world. Boston: Beacon Press.

Kegan, R. (1994). In over our heads: The mental demands of modern life. Cambridge, MA: Harvard University Press.

Lifton, R. J. (1993). The protean self: Human resilience in an age of fragmentation. New York: Basic Books.

Ornstein, R. (1991). Evolution of consciousness: The origins of the way we think. New York: Simon and Schuster.

Recent writings in disparate subjects such as physics, biology, management, adult education, and developmental psychology are calling for changes in the human mind. Authors from diverse fields assert that we need to develop a consciousness that is more capable of accepting diversity and difference, capable of handling ambiguity, and cognizant of our interdependence and connections with humankind and the earth. The authors reviewed here indicate it is imperative that we develop the capacity to respond to the complexity of modern life and our recently acquired ability to destroy life on an unprecedented scale. What is significant about the five books reviewed here is the convergence of interest from different fields of study.

In this essay, I examine five books that represent only a small selection of possible readings on necessary changes of the human mind. These books reflect both a variety of disciplinary approaches and a convergence among the authors' conclusions. While it is impossible to convey adequately the substance of these books in a few pages, I will attempt to examine these

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calls for changes of human consciousness and relate them to adult education. Because the books emanate from different disciplines, I will describe each book in turn and then discuss what seem to be similar conclusions drawn by the authors. Finally, I will present a curriculum for a new consciousness.

Capra began work as a physicist and now promotes ecoliteracy, in which people come to understand the principles that sustain ecological communities and to put them into practice in creating sustainable human communities. Capra writes that abstract thinking has led humanity to treat the natural environment, the web of life, as if it consisted of separate parts that exist to be exploited. To save the world, and ourselves, we have to change our thinking to recognize our connectedness with the entire web of life. This is the essence of the spirituality of ecology. Several principles of ecology can be used to build sustainable human communities, the first of which is interdependence, the mutual dependence of all life processes on one another. Members of an ecological community embrace interconnected relationships and members of the community derive their existence from relationships with others. Relationships among members of the ecological community are nonlinear, involving multiple, cyclical feedback loops.

Cyclical patterns require pervasive cooperation. The tendency to associate, to establish links and cooperate are essential to life. Each member of the community plays an important role; in true partnership partners coevolve, they learn and change together. There is a basic contradiction between the challenge of ecological sustainability and the way in which our present societies are structured, between the competition and domination emphasized in present-day economics and the cooperation, conservation, and partnership of ecology.

Capra writes that diversity is essential to resilience which allows for adaptation to changing situations. The complexity of a network is a good indication of its viability as it demonstrates that many different relationships and different approaches to problems exist within the network. The community must value all its members and be aware of the necessary interdependence of all. Diversity enriches individual members as well as the community as a whole.

Developing sustainable patterns of living requires reconnecting with the web of life and learning valuable lessons from the study of ecosystems. "We need to revitalize our communities--including our educational communities, business communities, and political communities--so that the principles of ecology become manifest in them as principles of education, management, and politics" (p. 297). Capra indicates that the survival of humanity depends on our ability to grasp the principles of ecology, change our thinking, and live accordingly.

Kegan is known for his work in developmental psychology. In this book, his premise is that the curriculum of modern life demands more of us than can be sustained by previous ways of thinking. He postulates two more levels of consciousness than in his previous works. Kegan explains that the reason for the emergence of fourth and fifth orders of consciousness is the complexity of modern life. In the fourth order of consciousness, *modernism*, we create a relationship to relationship, a qualitatively more complex order of consciousness than third-order consciousness. The mental demands of modern society that fourth-order consciousness better prepares us to handle include resisting our tendencies to insist that what is familiar is right or true, and that which is unfamiliar is false and strange. Our ways of organizing our understandings, preferences in decision-making, and our orientations to separation and connection come to be

seen as personal preferences rather than superior ways of being. We are able to re-evaluate the belief systems inherited from our cultural systems rather than be captive by them in the process of developing our own meaning systems and worldviews.

The fifth order of consciousness, *post-modernism,* does not view the self or others as a single system or form, perceives the premise of completeness as an enticing yet flawed pretense, understands interaction as prior to the formation of self, and conceives of conflict as a sign of identification with false assumptions of wholeness, distinctness, and completeness. Identity is constructed and reconstructed in multiple contexts; it is never whole or complete since it is formed by our interactions which are varied and constantly emerging. Our sense of individuation and autonomy gives way to an understanding of our interdependence within a community of interaction and our emanation from it.

As a social psychologist, Lifton has explored death, the dark side of human nature and thought reform. He writes

> we are becoming fluid and many-sided. Without quite realizing it, we have been evolving a sense of self appropriate to the restlessness and flux of our time. This mode of being differs radically from that of the past, and enables us to engage in continuous exploration and personal experiment. I have named it the "protean self," after Proteus, the Greek sea god of many forms. (Lifton, 1993, p. 1)

Much like Kegan, Lifton states that the protean self emerges from the confusion and changeability of modern life. Unmanageable historical forces and social uncertainties, frequently changing jobs, residences, and life partners, changing leadership we are hesitant to trust, and conflicting ideas about moral behavior all contribute to a feeling of having lost our moorings. We are attracted to

the idea of constancy and stability, but lead lives of unpredictability and change. Yet, according to Lifton, the human self turns out to be surprisingly resilient.

The protean self emerges from a particular social and historical context. "What we call the self--one's inclusive sense (or symbolization) of one's own being--is enormously sensitive to the flow of history" (p. 2). For Chinese and Japanese citizens whom Lifton interviewed, extreme changes of war and upheaval were their environment. For people in North America, no such large-scale twentieth century disruptions have taken place, but Lifton recounts an American history that includes colonization and revolution, migration toward a western frontier, destructive civil war, massive immigration, participation in armed conflict outside the U.S., and continuous technological development and social change. These forces not only "manipulate the self from outside but shape it importantly from within" (p. 3).

Lifton is careful to point out that another reaction exists to rapid change. This can be a closing off of a person and a constriction of the self. It may manifest as a diminished capacity to feel--a psychic numbing. It may lead to a demand for absolute dogma and a monolithic self. One explanation of the resurgence of fundamentalism worldwide is that it is a reaction against proteanism and a fear of chaos. While proteanism can exist in a world of ambiguity and uncertainty, fundamentalism expresses a desire for a world of definitive truth and moral certainty.

Lifton's "conviction is that certain manifestations of proteanism are not only desirable but necessary for the human future" (p. 11). There is a path from the protean self to the species self, a sense of self based on connection to humankind. This is not offered as a panacea to the world's problems, but as a way to tap into human resilience, our potential for change and renewal. Lifton relates our capacity for change, or shapeshifting, to wisdom.

Ornstein, an evolutionary biologist who has done extensive work on the human brain, also calls on the potential of human resilience. He describes human evolution as a glacially slow process. However, biological evolution has not prepared us for the complexities of acid rain, human crowding caused by exponential population growth, noise, pollution, and the current pace of change. Ornstein maintains that it is time to take evolution under conscious control and "begin a massive program for conscious changes in the way we think, the way we relate to others, the way we identify with the rest of humanity" (p. 267). Biological evolution has enabled us to adapt to a changing world, but the current pace of change is too rapid to continue adapting in an unconscious way.

A shift in priorities may enable humankind to adapt far more than might be expected. What is required, according to Ornstein, is a shift toward a view of humanity as one animal and away from the every man for himself mentality that pervades much of Western culture. "Instead of tribes or families, we need to bring up our children to identify with humanity itself. Instead of focusing on specific countries, we need to understand how we live on one globe and communicate that to our children and to adolescents, who are 'making up their adult mind' about their role in culture" (p. 268). Ornstein recommends a global rather than a local patriotism.

An important value is a sense of concern for the welfare of all people. How we define 'our people' is crucial. What is required is for more and more people to consider all of humanity to be their people. Since our future is dependent on what many other people do in the world, it is important to realize that the survival questions that face us are more collective than individual. "How to prevent destruction of the earth; how to relate and understand diverse and divergent ideas, doctrines and peoples, all of whom have their own reality" (Ornstein, p. 275).

Daloz is an adult educator who has grappled with the meaning of developmental theories for the practice of adult education. He and his colleagues have gone a step further than the authors reviewed here by designing a study in which they "conducted interviews over a period of several years with more than one hundred people who had sustained long-term commitments to work on behalf of the common good, even in the face of global complexity, diversity, and ambiguity" (p. 5). Daloz, Keen, Keen, and Parks sought to answer four questions: 1) What are such people like? 2) How do they become that way? 3) What keeps them going in spite of inevitable discouragement? 4) What can be done to encourage this kind of citizenship to meet the challenges of the twenty-first century?

The authors' findings include five habits of mind that were characteristic of people in the sample. They are: 1) the habit of dialogue in which meaning is constructed through conversation and interaction with others, 2) the habit of interpersonal perspective-taking including the ability to take another's perspective and respond to their feelings and concerns, 3) the habit of critical, systemic thought demonstrating the ability to identify parts and their connections, to identify coherent patterns, and to evaluate them, 4) the habit of dialectical thought, the ability to hold contradictory thoughts by resisting premature closure or reframing one's thinking, and 5) the habit of holistic thought, the ability to grasp life as an interconnected whole. The people interviewed were not immune to discouragement or confusion, but these habits "steady them in turbulent times and foster humane, intelligent, and constructive responses to the complex challenges that we face" (Daloz et al., p. 105, 108).

Daloz et al. also describe four primary directions that can be used as key points of orientation for our interactions with key sectors of our daily lives such as family, higher education

and the professions. These include 1) creating time to pause, reflect, and assess, 2) cultivating constructive engagement with otherness, 3) developing and utilizing a consciousness of connection, and 4) attending to the character and use of language. Daloz et al. note that when our environment changes, the human tendency is to utilize the same techniques as before, but more urgently and intensively. Therefore, "creating time for reflection, reorientation, and learning can be a significant aspect of citizenship" (p. 214). And like Capra, Daloz et al. recognize that our over-emphasis on autonomy, individuation, and separation leads us to overlook and neglect how diverse peoples, issues, and things are connected.

Towards a Global Consciousness

These five authors approach the question of changes in the human mind from different perspectives. Yet, despite their apparent differences, closer readings of these works confirm that the authors are describing a consciousness that 1) is capable of developing a more inclusive worldview and forming allegiances beyond the local, 2) is cognizant of the interdependence among humans and between humankind and the earth, 3) is able to cope comfortably with ambiguity, and 4) values complexity and diversity. All five authors are calling for changes in the way we think, the way we relate to the rest of the world, and way we identify with all of humanity.

An Inclusive Worldview

The first characteristic of global consciousness is the identification with a larger group than our immediate relatives and neighbors or those in our immediate city, region, or nation. Rather than a local focus, Ornstein recommends we enlarge our view to encompass more of the globe. Many already consider themselves to be citizens of the world (Daloz et al; Ornstein). Because the

survival questions we face are more collective than individual, a critical issue is how we define 'our people' (Ornstein). Empathy provides a path to species awareness. An innate ability that may be nourished or inhibited, Lifton suggests that empathy is a way of experiencing our commonality with others through thinking or feeling our way into the minds of others. As members of an interconnected web of life, Capra states empathy is essential to understanding the value of others beyond our immediate circle.

The five authors reviewed here clearly describe the need to move away from a focus on self-interest towards viewing all of humanity as one species. After centuries of promoting individual development with accompanying emphases on competition and separation, Western scholars in a variety of fields are questioning the centrality of individualism and note that the reverence for individualism contributes to a sense of isolation and loneliness, promotes economic exploitation, elevates a competitive view of international relations, and leads to exploitation of natural resources in the service of competition and self-gratification.

Interdependence and Relationship

Daloz et al. actively sought out people who have been consistently involved in service or a cause larger than themselves, and attempted to describe their characteristics and motivations. In a recent conference presentation, Laurent Daloz questioned how we can reconcile individual agency and an interdependent reality. He echoes Ornstein by saying, "It is claimed that the key to the survival and flourishing of the human species is its great adaptability. Accordingly, we are facing what may be the greatest challenge. What is required is a *Pedagogy of Interdependence*" (L. A. Parks Daloz, personal communication, October 28, 1996).

Connectedness needs to be emphasized over individualism, interdependence on other human beings and the earth over separateness and domination. Daloz et al. indicate that people in their study did not feel human unity was something that needed to be created, rather it was recognized as pre-existing. Meaning will be constituted in relationship with others as will our sense of self (Kegan). Capra suggests a move to a consciousness of being one with other beings, human and nonhuman, in an intricate web of life in which every living being is influenced by everything else in the universe. Recognizing ourselves as an integral member of a larger system will allow us to cultivate the cooperation to address the urgent problems we face.

Complexity and Diversity

Accompanying the development of a more inclusive worldview and comprehension of our interdependence is an appreciation of greater complexity and diversity (Capra; Daloz et al.; Kegan; Lifton; Ornstein). The diversity of viewpoints and complexity of contemporary life can create ambivalence in our minds as we struggle to reconcile and make meaning of competing perspectives. Daloz et al. found that constructive engagement with otherness allows people to see cultures as systems resulting in the ability to view their own culture more critically. Conflict and contradictions may be seen as challenges to help us think more deeply and profoundly (Kegan) Wisdom involves knowing that what separates us as human beings is unimportant compared to what unites us with all of humanity (Daloz et al.).

Diversity is necessary to survival and the resilience to adapt to our changing world. Kegan indicates that differing cultures and peoples need to be respected in their wholeness and need not be forced into a Western model. Rather, cultures need to remain intact in their distinctness to be able to make unique contributions to cultural dialogue. Ways to communicate across differences

need to be explored and a common ground to be found among us (Capra). Amidst our cultural diversity we can recognize ourselves as what we are, a common species. Instead of searching for similarity or imposing conformity, Lifton suggests the commonality of the characteristics and life experiences we share as humans are important. One of the features of global consciousness is a "willingness to work to understand things as they really are--to recognize manifold complexity and diversity . . .[in order] to make sense of unwieldy interdependencies" (Daloz et al., p. 147).

Ambiguity and Meaning

Forming a comprehensive worldview, embracing complexity and diversity, and coming to understand our mutual interdependence engenders ambiguity. Human beings, by their nature, continually work to impose patterns of order and significance on their experiences; we are inveterate meaning-makers. "The conditions of life assault our meaning-making capacity. The diversity of viewpoints and the complexity of contemporary conditions create an ambivalence that gnaws at the edges of our consciousness, eroding our conviction" (Daloz et al., p. 107).

Changing the way we think will allow us to learn patience to cope with difference and multiple meaning systems; taking a holistic, comprehensive view of issues will help (Kegan). Understanding an issue from within a larger set of relationships imparts a significance to what might otherwise seem contradictory, random events. Paradox may disguise an underlying unity. By linking immediate problems with larger, global issues we can learn to see the connections between them and cultivate a broader framework (Daloz et al.). The fragmentation of modern life can lead us to believe we are separate from others. Reconnection with the web of life can heal us and our world (Capra).

While these works have much to offer societal dialogue and the theory and practice of adult education, some reservations must be noted. First, these books are written from an American perspective that does not take into account other cultures that are already more communal than our own or even micro-cultures within North America that do not accept the ethos of mainstream culture. Second, it appears that the authors are writing to a white, educated, middle class audience. Third, some of this writing, primarily Kegan, tends to borrow heavily from post-modernism, with resulting density and obfuscation. No matter the value of post-modernism, its dissemination will remain limited unless it can be communicated more clearly. Finally, little is offered by the five authors reviewed here in the way of a concrete path leading to global consciousness.

Curriculum for a New Consciousness

If one accepts the necessity of these changes in human consciousness, the next question becomes what can be done to foster the changes these authors recommend? While they express a common vision for the future, there are few specific suggestions for a curriculum that would lead to it. However, each author does have a particular focus that can translate into a curricular emphasis.

For Capra, cognition is an integral part of the way an organism interacts with its environment; intelligence is visible in the complexity and flexibility of an organism's responses to changes in the environment. He describes our understandings of the world as dependent on our mental representations of it so the process of knowing is inherently connected with the process of life. The basic processes of ecology, interdependence, recycling, partnership, pervasive

cooperation, flexibility, and diversity can be used as guidelines to build sustainable human communities.

Daloz et al. discerned a "kind of practical wisdom, an ability to see the big picture without losing sight of the details, to recognize our connections to one another without losing our distinctness, to celebrate the whole without losing a grasp of the particular" (p. 123). Because the people they studied are able to take the perspective of others, they understand the fundamental humanity of people different from themselves. They see themselves as one among many, leading to enhanced humility and responsibility. They are able to link immediate problems with global issues and take a broad, long-term view and therefore are less vulnerable to simplistic explanations. The people studied were generally unwillingly to describe an image of the future. Because they recognize reality to be emergent in relationship and dialogue with others, a vision for the future will need to be created in common with others.

Kegan's fifth order consciousness asks people to experience themselves in their multiplicity, regard the premise of completeness as false, understand the process of interaction as existing prior to the formation of self, and associate conflict with being too strongly identified with false assumptions of wholeness, distinctness, or priority. Common ground must be sought in the face of conflict and diversity. Kegan indicates many people have not achieved fourth order consciousness, let alone fifth and that preparations for the advent of postmodernism are premature. However, it is not made clear what will encourage more people to move to fifth order consciousness; we are left to assume that the increasing complexity of life will take care of it.

Lifton proposes a principle of commonality of the characteristics and life experiences we share so that we can come to experience ourselves as what we are, members of a common

species. Commonality is asserted through our capacity for empathy, our ability to identify with others. People worldwide are experiencing increased trauma and suffering due to social, political, and ecological upheavals that leave people feeling assaulted by forces seemingly beyond control. Empathy must integrate the pain into a larger understanding that can be cultivated as a crucial part of the development of species awareness. Defiance of oppression can lead to the emergence of a global civic society in which institutions and people hold values and principles that transcend national boundaries or local priorities.

Since the human mind contains a variety of possible adaptations that have allowed us to flourish in almost all locations on earth, Ornstein believes we can cultivate a new altruism, the ability to identify with people beyond those with whom we are genetically close. We need to understand the survival questions we face as collective. Our power to manipulate and control the earth is so pervasive that we need to develop new ideas about how we are going to form our future. We need to interweave lessons of compassion, generosity, and humility into the basics of education so that these threads can be woven into all of our decisions.

It is intriguing that two significant images that virtually everyone recognizes are that of a mushroom cloud and that of the earth viewed from space, contradictory images of cataclysmic destruction and hope. "A person's image of various potential futures may influence the amount of meaning and purpose gained from humanity's long-term flourishing" (Tough, 1991, p. 105). Whether they refer to the web of life, the common good, the commons (an unfortunate term in the history of American slavery), commonality, or common ground, the authors reviewed here are concerned with how we think, the meanings that characterize our consciousness. All five authors indicate that the images, or mental representations of the world in which we live serve to structure

our thinking and our actions. Since the human mind is always constructing meaning from what it encounters or creates, how we think matters to our future (Daloz et al.; Kegan).

Of the authors reviewed here, only Daloz et al. and Kegan are concerned with the educators' role. Daloz et al. discuss higher education and suggest its commitment to fostering a transformation of students' thinking is important to the formation of citizens in a complex, changing world. Kegan writes that few adult students come to educational programs with the desire to change their way of thinking. Yet, in many programs they meet the demand to reflect upon themselves and society, develop critical thinking, and learn to see themselves as co-creators of culture.

Adult educators struggle over whether our role should be to service practical needs for training, credentialing, and improved skills or to support what Kegan refers to as our noble, traditional mission, the liberation of the human mind and the growth of the student. What is at issue are the purpose and goals of adult education. Heaney (1996) points out that adult education has strayed from its formative concern with education for social action. Much of adult education has become instrumental in nature, helping adults adapt to a changing social and economic world, and sometimes to conform to the existing social order. Our understandings have been impoverished by the overemphasis on individualism and work self-reliance. Rather than focus primarily on technical expertise, adult educators need to revitalize our concern for the larger world we live in.

The way we teach and learn contributes to the transformation of culture. Adult educators can, if they choose, play a critical role in the development of a global consciousness. What can be discerned from the books discussed here is the need to cultivate greater cognitive complexity,

resist inappropriate simplification, emphasize communalism instead of individualism, and develop appreciation for diversity and our interdependence. As educators we can emphasize the needs of the group, not to induce conformity, but to encourage responsibility. We can emphasize engagement with otherness and assist learners not to be afraid of competing or different perspectives. We can support learners' efforts to persist in the face of ambiguity and complexity and to learn to see the connections in apparent contradictions by taking a larger perspective.

The call for a global consciousness in essence entails recognition of the need for change in a common worldview characterized by individualism, independence, entrepreneurial freedom, and a capitalist work ethic resulting in pervasive competition, exploitation, and oppression. McKenzie's (1991) definition of adult education is that ideally it should help adults "develop and actualize their various potentialities to the end that the learners become more liberated as individuals, better capacitated to participate in the lives of their communities and institutions, and empowered to create an authentically human future" (p. 129). Adult education has a unique contribution to make by helping learners examine common experiences, identify shared meanings, and engage in the struggle to transform those meanings, and thereby transform the societies in which we live.

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